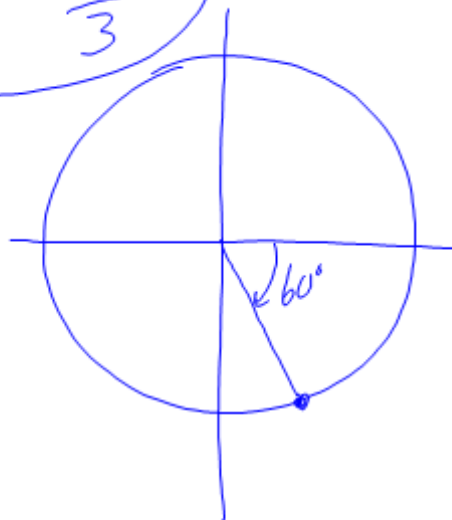
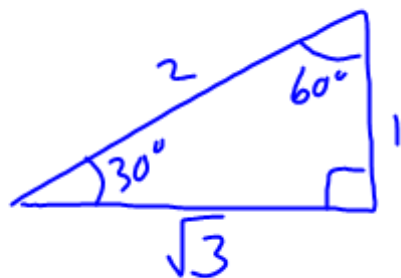


$$\textcircled{1} \arcsin\left(-\frac{\sqrt{3}}{2}\right) = -60^\circ$$

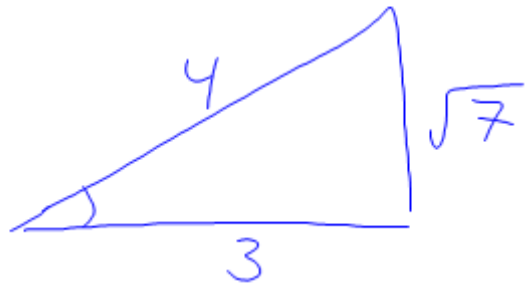
$$-\frac{\pi}{3}$$



$$(2) \csc^{-1}(1.9422833)$$

$$\sin^{-1}\left(\frac{1}{1.9422833}\right) = 30.988^\circ$$
$$0.5408 \text{ radians}$$

$$\tan\left(\arccos\frac{3}{4}\right) = \frac{\sqrt{7}}{3}, 0.8819$$



$$\begin{array}{r} 2\sin x + 3 = 4 \\ -3 \quad -3 \end{array}$$

$$2\sin x = 1$$

$$\sin x = \frac{1}{2}$$

$$x = \sin^{-1}\left(\frac{1}{2}\right)$$

$x = 30^\circ, 150^\circ$

↑ ↑
1pt 1pt

$$2\cos^2 x - \cos x = 1$$

$$2\cos^2 x - \cos x - 1 = 0$$

$$(2\cos x + 1)(\cos x - 1) = 0$$

$$\cos x = -\frac{1}{2} \quad \cos x = 1 \quad \leftarrow \frac{1}{2} \text{ pt}$$

$x = \frac{2\pi}{3}, \frac{4\pi}{3}$	0
\uparrow	\uparrow
$\frac{1}{2} \text{ pt}$	$\frac{1}{2} \text{ pt}$

Read examples 1 & 2 in 6.3 OR listen

Do #1, 2, 7-11, 13-15, 20, 28

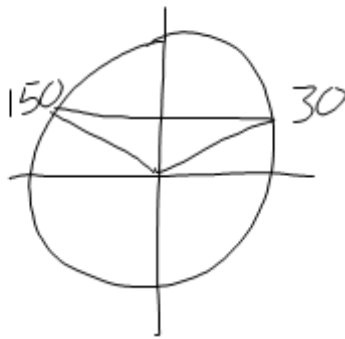
$$\frac{2 \sin \frac{x}{2}}{2} = 1 \quad x \text{ is in } [0, 360^\circ) \quad 0 \leq x < 360$$

$$\frac{x}{2} \text{ is in } [0, 180^\circ) \quad 0 \leq \frac{x}{2} < 180$$

$$\sin \frac{x}{2} = \frac{1}{2}$$

$$\frac{x}{2} = \sin^{-1}\left(\frac{1}{2}\right)$$

$$\frac{x}{2} = 30^\circ, 150^\circ$$



$$x = 60^\circ \quad x = 300^\circ$$

$$\sin \frac{x}{2} = \sqrt{2} - \sin \frac{x}{2} \\ + \sin \frac{x}{2} \quad + \sin \frac{x}{2}$$

$$\frac{2 \sin \frac{x}{2}}{2} = \frac{\sqrt{2}}{2}$$

$$\sin \frac{x}{2} = \frac{\sqrt{2}}{2}$$

$$\frac{x}{2} = \sin^{-1}\left(\frac{\sqrt{2}}{2}\right)$$

$$\frac{x}{2} = 45^\circ, 135^\circ$$

$$x = 90^\circ, 270^\circ$$

Elizabeth

$$0 \leq \frac{x}{2} < 180$$

Pretend it is cosine

$$\cos \frac{x}{2} = \frac{\sqrt{2}}{2}$$

$$\frac{x}{2} = \cos^{-1}\left(\frac{\sqrt{2}}{2}\right)$$

$$\frac{x}{2} = 45^\circ, \cancel{315^\circ}$$

$$x = 90^\circ$$

$$\cos 2x = \cos x$$



$$\begin{array}{r} 2\cos^2 x - 1 = \cos x \\ -\cos x \quad -\cos x \end{array}$$

$$2\cos^2 x - \cos x - 1 = 0$$

$$(2\cos x + 1)(\cos x - 1)$$

$$\cos x = -\frac{1}{2} \quad \cos x = 1$$

$$X = \frac{2\pi}{3}, \frac{4\pi}{3}, 0$$

$$120^\circ, 240^\circ, 0$$

$$x \text{ in } 0 \leq x < 360$$

$$0 \leq 2x < 720$$

Elizabette